

WHAT IS CLAIMED IS:

1. A high thermally conductive and high strength molding composition having a thermal conductivity of at least 4 W/m°K and a tensile strength of at least 15 ksi and being net-shape moldable, comprising:

a polymer base matrix of, by volume, between approximately 30 and 70 percent;

a first filler of high modulus PITCH-based carbon material, by volume, between approximately 15 and 47 percent; said first filler having an aspect ratio of at least 10:1;

a second filler of PAN-based carbon material, by volume, between approximately 10 and 35 percent, said second filler having an aspect ratio of at least 10:1.

2. The molding composition of Claim 1, further comprising:

a third filler of thermally conductive material, by volume, between 1 and 10 percent, said third filler having an aspect ratio of less than 5:1.

3. The molding composition of Claim 1, wherein said polymer base matrix is a polycarbonate material.

4. The molding composition of Claim 1, wherein said polymer base matrix is a liquid crystal polymer material.

5. The molding composition of Claim 1, wherein said first filler is of a fiber configuration.

6. The molding composition of Claim 1, wherein said second filler is of a fiber configuration.

7. The molding composition of Claim 1, wherein said first filler is of a flake configuration.

8. The molding composition of Claim 1, wherein said second filler is of a flake configuration.

9. The molding composition of Claim 1, wherein said second third filler is spheroid in shape.
10. The molding composition of Claim 1, wherein said third filler is of a grain configuration.
11. The molding composition of Claim 1, wherein said third filler is selected from the group consisting of boron nitride, aluminum, alumina, copper, magnesium and brass.